

REMARKS/ARGUMENTS

Claims 1-41 stand in the present application, claims 1, 3-7, 9-28, 31, 32, 35 and 37-39 having been amended. More particularly, the claims have been amended to correct typographical and grammatical errors and to correct antecedent basis problems, but the claims have not been amended in order to overcome the cited art since it is respectfully submitted that the claims as originally filed patentably define over the cited art. Accordingly, reconsideration and favorable action is respectfully requested in view of the above amendments and the following remarks.

In the Office Action, the Examiner has rejected all of claims 1-41 as either being anticipated by Farrauto et al. or as being obvious under 35 U.S.C. § 103 in view of Farrauto et al. or Strehlau et al. Applicants respectfully traverse the Examiner's §§ 102 and 103 rejections of the claims.

Applicants' invention relates to a ceramic carrier capable of directly supporting a catalyst component on the surface of a ceramic substrate provide with a multitude of cells which are substantially parallel to each other with the inside thereof serving as a gas flow passage, wherein the cell wall has an irregular surface.

On the other hand, Strehlau et al. (USP 6,413,904) and Farrauto et al. (USP 5,552,360) do not teach or suggest such a ceramic carrier capable of directly supporting a catalyst component on the surface of a ceramic substrate. The references actually disclose a ceramic carrier in which a coating is applied to the surface of a ceramic substrate and then a catalyst component is supported on the surface of the coating. Therefore, neither Strehlau et al. nor Farrauto et al. teach or suggest a ceramic carrier capable of directly supporting a catalyst component on the surface of a ceramic

substrate as required by the present claims. Such a ceramic carrier has been developed by the present inventors for the first time, as described in co-pending United States Patent Application No. 09/546,227.

More particularly, Strehlau et al. discloses a nitrogen oxide storage catalyst which enables the storage catalyst to be provided with a high concentration of storage compounds. The nitrogen oxide storage catalyst comprises catalyst materials and a nitrogen oxide storage component, and is present in the form of a coating on a honeycomb structure. The nitrogen oxide storage component has an average particle size of less than 1 μm and is selected from the group consisting of barium sulfate, strontium sulfate and a mixture thereof. The sulfates can be converted into active storage compounds, by desulfatizing in the exhaust gas (above 550°C), which have a very high tolerance to sulfur oxides in the exhaust gas.

The Examiner admits that Strehlau et al. discloses a coating on the walls of flow channels (claim 24). See Office Action at page 3. However, the nitrogen oxide storage catalyst of the present invention significantly differs from that of Strehlau et al., since the catalyst of the present invention does not have a coating.

Furthermore, Strehlau et al. does not disclose the cell density of a honeycomb structure without a coating while it does disclose the cell density of a honeycomb structure having a coating. In addition, Strehlau et al. merely discloses catalyst materials such as support materials, catalytically active components, and promoters, in column 7, line 16 and following, in which there is no description about a corrugated cell wall.

Farrauto et al. relates to a combustor for promoting catalytic combustion of gaseous carbonaceous materials. The combustor comprises a catalyst zone, which has at least a first catalyst member comprised of a first carrier and a second catalyst member comprised of a second carrier, and a down stream zone, which is a homogeneous reaction zone, wherein the first carrier comprises primarily cordierite, mullite and alumina, and the second carrier comprises ceramic fibers, the composition of which comprises alumina, boron oxide and silica, fixed in a silicon carbide matrix.

→ The Examiner admits that Farrauto et al. discloses a coating on the walls of the cells in claim 13. See Office action at page 3. However, as noted above, the nitrogen oxide storage catalyst of the present invention significantly differs from that of Farrauto et al. since the catalyst of the present invention does not have a coating. Farrauto et al. similarly to Strehlau et al. discloses a catalyst on a coating.

Further, Farrauto et al. does not disclose cell density of a honeycomb structure without a coating, while it does disclose cell density of a honeycomb structure having a coating. In addition, Farrauto et al. does not disclose a corrugated cell wall surface of a honeycomb structure without a coating, while it does disclose that of a honeycomb structure having a coating. Accordingly, the pitch of the cell of a honeycomb structure without a coating could not be derived from the gas flow passages.

→ Accordingly, from the above, it should be clear that the cited references taken either singly or in combination, do not teach or suggest key features of Applicants' invention. More particularly, neither Farrauto et al. or Strehlau et al. teach or suggest Applicants' invention as clearly recited in the claims to require a ceramic carrier capable of supporting a catalyst component directly on the surface of a ceramic substrate. To

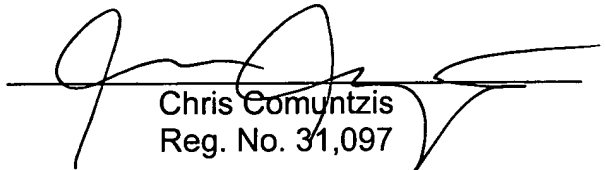
the contrary, the cited references both disclose the use of a coating material applied prior to a catalyst on the ceramic substrate.

Therefore, in view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all of claims 1-41, standing in the application, be allowed and that the case be passed to issue. If there are any other issues remaining which the Examiner believes could be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____


Chris Comuntzis
Reg. No. 31,097

CC:lmr
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100